

REMARKS/ARGUMENTS

In the outstanding Final Office Action, Claims 1-21 were examined. Claims 1-21 are rejected. In response, Applicants amend Claims 1, 2, 8, 9, 11, 14, and 17 and cancel Claim 13. Entry of the amendments is respectfully requested. Applicants respectfully request reconsideration in view of the aforementioned amendments and the following remarks.

I. Claim Objections

Examiner objects to Claims 11-13 because Claim 11 recites a word “store” and Claims 12 and 13 depend from Claim 11. In response, Applicants amend Claim 11 by deleting the extra “store” to comply with Examiner’s suggestion. As a result, the defects of Claim 12 and 13 have also been corrected due to their dependency from Claim 11. Consequently, Applicants respectfully request reconsideration and withdrawal of the objection to Claims 11-13.

II. Claims Rejected Under 35 U.S.C §102

A. Examiner rejects Claims 1-3, 5-7, 14, 17, and 19-21 under 35 U.S.C. §102(e) as being anticipated by Morris et al., U.S. Patent Application Publication No. 2004/0168045 (“Morris”). To anticipate a claim, Examiner must show that a single reference teaches each of the elements of that claim.

In regard to Claims 1, 14 and 17, these claims as amended include the elements of “flagging a field in a reorder buffer to indicate the load instruction that uses speculative data is to be checked at retirement, the field in an entry tracking program order of the load instruction,” “a reorder buffer to track program order of instructions, the reorder buffer including an entry to track the program order of a load instruction, the entry including a field indicating the load instruction is to be checked at retirement” or similar elements. Morris does not teach these elements of Claims 1, 14 and 17. Specifically, the check instruction in the instruction queue 25 of Morris, which Examiner has relied on for teaching the indicator field in a reorder buffer does not track program order of load instruction. Instead, the field contains a load check instruction that checks the load instruction when the load check instruction is at the end of the instruction queue ready to be executed. Consequently, Morris does not teach every element of Claims 1, 14 and 17 and reconsideration and withdrawal of the § 102(e) rejection are respectfully requested.

Regarding Claims 2, 3 and 5-7, these claims depend from independent Claim 1 and thus incorporate all the limitations thereof. For the reasons stated above, Morris does not teach every elements of these dependent claims. Accordingly, Applicants respectfully request reconsideration and withdrawal of the § 102(e) rejection of these dependent claims.

In regard to Claims 19-21, these claims depend from independent Claim 17 and thus incorporate all the limitations thereof. At least for the reasons stated above in regard to Claim 17, Morris does not anticipate these dependent Claims. Consequently, Applicants respectfully request reconsideration and withdrawal of the § 102(e) rejection of Claims 19-21.

B. Examiner rejects Claims 8 and 10 under 35 U.S.C. §102(a) as being anticipated by “Itanium 2 Processor Microarchitecture,” McNairy et al., (“McNairy”).

In response, Applicants amend Claim 8 to recite “a reorder buffer to track program order of instructions, the reorder buffer including an entry to track the program order of a load instruction, the entry including a field indicating the load instruction is to be checked at retirement.” After careful review, Applicants have been unable to find any part of McNairy that explicitly teaches “a reorder buffer to track program order of instructions, the reorder buffer including an entry to track the program order of a load instruction, the entry including a field indicating the load instruction is to be checked at retirement.” Examiner has also agreed with Applicants’ view here by conceding that “McNairy has not explicitly taught a reorder buffer” (see Office Action mailed September 28, 2006, p.8, lines 4-6). Hence, McNairy fails to teach every element of Claim 8. Accordingly, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C §102(a) rejection of Claim 8.

Regarding Claim 10, this claim depends from independent Claim 8 and thus incorporates all the limitations thereof. At least for the reasons stated above, McNairy does not teach every element of Claim 10. Consequently, Applicants respectfully request reconsideration and withdrawal of the § 102(a) rejection of Claim 10.

III. Claims Rejected Under 35 U.S.C. §103(a)

A. Claims 9, 11 and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over McNairy in view of “Superscalar Microprocessor Design” written by Mike Johnson (“Johnson”).

To establish a *prima facie* case of obviousness, the following criteria must be met: (1) there must be some suggestion or motivation to modify the reference or combine the reference teachings; (2) there must be a reasonable expectation of success; and (3) the prior art references must teach or suggest all the claim limitations (*see* MPEP § 2142).

Applicants incorporate the reorder buffer from Claim 9 into Claim 8. Hence, Examiner may contend that Claim 8 is now obvious over McNairy in view of Johnson. However, the reorder buffer in Johnson does not teach an entry for tracking a load instruction program order including a field indicating the load instruction is to be checked at retirement. Instead, Johnson merely states that a “reorder buffer contains the lookahead state” (Johnson, p.92, § 5.1.4) without disclosing “a reorder buffer to track program order of instructions, the reorder buffer including an entry to track the program order of a load instruction, the entry including a field indicating the load instruction is to be checked at retirement.” After careful review, Applicants have been unable to discern any part of Johnson that teaches “a reorder buffer to track program order of instructions, the reorder buffer including an entry to track the program order of a load instruction, the entry including a field indicating the load instruction is to be checked at retirement.” Thus, McNairy in view of Johnson does not teach or suggest each and every element of Claim 9. Accordingly, Applicants respectfully request reconsideration and withdrawal of § 103(a) rejection of Claim 9.

With respect to Claim 11, this claim, as amended, includes elements similar to those of Claim 8. Specifically, Claim 11 now includes “a reorder buffer to track program order of instructions, the reorder buffer including an entry to track the program order of a load instruction, the entry including a field indicating the load instruction is to be checked at retirement.” Thus, based on the reasons set forth above for Claim 8, McNairy in view of Johnson fails to teach or suggest each and every element of Claim 11. Accordingly, Applicants respectfully request reconsideration and withdrawal of § 103(a) rejection of Claim 11.

Regarding Claim 13, this claim depends from Claim 11 and incorporates all the limitations thereof. For the reasons stated above, the combination of McNairy and Johnson does not teach or suggest each and every element of Claim 13. Accordingly, Applicants respectfully request reconsideration and withdrawal of § 103(a) rejection of Claim 13.

B. Claim 12 is rejected under 35 U.S.C. § 103(a) as being unpatentable over McNairy, Johnson and further in view of Hennessy et al., “Computer Architecture: A Quantitative Approach” (“Hennessy”).

In response, Claim 12 depends from Claim 11 and incorporates all the limitations thereof. For the reasons stated above, McNairy in view of Johnson does not teach or suggest each and every element of Claim 11. Moreover, Hennessy does not cure the deficiency of McNairy and Johnson. Examiner has not relied upon and Applicants have been unable to discern any part of Hennessy that teaches or suggests “a reorder buffer to track program order of instructions, the reorder buffer including an entry to track the program order of a load instruction, the entry including a field indicating the load instruction is to be checked at retirement.” Thus, McNairy in view of Johnson and Hennessy does not teach or suggest each and every element of Claim 12. Accordingly, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. §103(a) rejection of Claim 12.

C. Claims 4 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris in view of U. S. Patent No. 6,598,156 issued to Arora (“Arora”).

In regard to Claim 4, this claim depends from Claim 1 and incorporates the limitations thereof. Thus, at least for the reasons stated above for Claim 1, Morris fails to teach each and every element of Claim 4. Furthermore, Arora does not cure the deficiency of Morris. Examiner has not relied upon and Applicants have been unable to discern any part of Arora that teaches or suggests “flagging a field in a reorder buffer to indicate the load instruction that uses speculative data is to be checked at retirement, the field in an entry tracking program order of the load instruction.” Thus, Morris in view of Arora fails to teach or suggest each and every element of

Claim 4. Accordingly, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 103(a) rejection of Claim 4.

Regarding Claim 16, this claim depends from Claim 14 and thus incorporates all the limitations thereof. Thus, at least for the reasons stated above for Claim 14, Morris fails to teach each and every element of Claim 16. Furthermore, Arora does not cure the deficiency of Morris. Examiner has not indicated and Applicants have been unable to discern any part of Arora teaches “a field to indicate a load instruction is to be checked at retirement, the field in an entry tracking program order of the load instruction.” Thus, Morris in view of Arora fails to teach or suggest each and every element of Claim 16. Accordingly, Applicants respectfully request reconsideration and withdrawal of § 103(a) rejection of Claim 16.

D. Claims 15 and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris in view of Johnson.

With respect to Claim 15, this claim depends from Claim 14 and thus incorporates all the limitations thereof. Thus, at least for the reasons stated above for Claim 14, Morris fails to teach each and every element of Claim 15. Furthermore, Johnson does not cure the deficiency of Morris. The reorder buffer of Johnson merely contains “the lookahead state” (Johnson, p.92, § 5.1.4) and fails to teach “a field to indicate a load instruction is to be checked at retirement, the field in an entry tracking program order of the load instruction.” After careful review, Applicants have been unable to discern any part of Johnson that teaches “a field to indicate a load instruction is to be checked at retirement, the field in an entry tracking program order of the load instruction.” Thus, Morris in view of Johnson fails to teach or suggest each and every element of Claim 16. Accordingly, Applicants respectfully request reconsideration and withdrawal of § 103(a) rejection of Claim 15.

Similarly, Claim 18 depends from Claim 17 and thus incorporates all the limitations thereof. Thus, at least for the reasons stated above for Claim 17, Morris fails to teach each and every element of Claim 18. Furthermore, Johnson does not cure the deficiency of Morris (see reasons above under Claim 15). Thus, Morris in view of Johnson fails to teach or suggest each

and every element of Claim 18. Accordingly, Applicants respectfully request reconsideration and withdrawal of § 103(a) rejection of Claim 18.

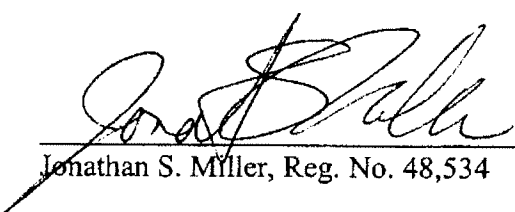
CONCLUSION

In view of the forgoing, it is believed that all claims now pending are in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any additional fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666. Questions regarding this matter should be directed to the undersigned at (310) 207-3800.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

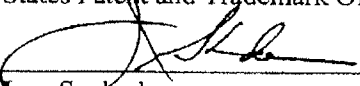
Date: November 28, 2006


Jonathan S. Miller, Reg. No. 48,534

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, California 90025
(310) 207-3800

CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is being submitted electronically via EFS Web on the date shown below to the United States Patent and Trademark Office.


Jean Svoboda

11/28/06
Date